Watch On Wetlands

Project Learning Tree Activity #71

Program of Studies

Science:

- S-7-SI-2 (Students will use appropriate equipment (e.g., spring scales), tools (e.g., spatulas), techniques (e.g., measuring), technology (e.g., computers), and mathematics in scientific investigations.)
- S-7-SI-3 (Students will use evidence (e.g., measurements), logic, and scientific knowledge to develop scientific explanations.)
- S-7-SI-4 (Students will design and conduct different kinds of scientific investigations to answer different kinds of questions.)
- S-7-SI-5 (Students will communicate (e.g., write) designs, procedures, and results of scientific investigations.)
- S-7-SI-6 (Students will review and analyze scientific investigations and explanations of other students.)
- S-7-ESS-4 (Students will examine evidence (e.g., fossils) for changes in life and environmental conditions.)
- S-7-LS-3 (Students will investigate unity among organisms.)
- S-7-AC-1(Students will use science to evaluate the risks and benefits to society for common activities (e.g., riding on airplanes, choice of habitation).)
- S-8-SI-2 (Use appropriate equipment (e.g., barometers), tools (e.g., meter sticks), techniques (e.g., computer skills), technology (e.g., computers), and mathematics in scientific investigations.)
- S-8-SI-3 (Use evidence (e.g., computer models), logic, and scientific knowledge to develop scientific explanations.)
- S-8-SI-4 (Design and conduct different kinds of scientific investigations to answer different kinds of questions.)
- S-8-SI-5 (Communicate (e.g., write, graph) designs, procedures, and results of scientific investigations.)
- S-8-SI-6 (Students will analyze diversity and adaptations (e.g., changes in structure, behaviors, or physiology.)
- S-8-LS-4 (Investigate and analyze populations and ecosystems.)
- S-8-LS-5 (Students will analyze diversity and adaptations (e.g., changes in structure, behaviors, or physiology).)
- S-8-AC-1 (Students will use scientific inquiry and conceptual understandings to design technological solutions (e.g., zippers, ballpoint pens) to problems.)
- S-8-AC-3 (Recognize how science is used to understand changes in populations.)
- S-8-AC-5 (Students will use science to evaluate the risks and benefits to society for common activities (e.g., riding on airplanes, choice of habitation).)
- S-8-AC-8 (Students will recognize that science is a process that generates conceptual understandings and solves problems.)

Social Studies:

- SS-8-E-1 (Students will relate the concept of scarcity (imbalance between unlimited wants and limited resources) to the development of the United States as it applies to individuals, societies, and governments.)
- SS-8-E-3 (Students will recognize that government regulation impacts the economy in decisions about productive resources (e.g., natural, human, human-made).)

English Language Arts:

- ELA-7-R-1 (Students will identify the meaning of a variety of reading materials, making connections to students' lives, to the real world, and/or to current events.)
- ELA-7-R-3 (Students will respond to and analyze transactive reading materials (informational, practical/ workplace, and persuasive) through raising and addressing questions, making predictions, drawing conclusions, solving problems, and summarizing information.)
- ELA-7-R-4 (Students will interpret and apply information in a variety of transactive reading materials to complete authentic tasks.)
- ELA-7-R-5 (Students will identify authors' positions, main ideas, and techniques of support in persuasive materials.)
- ELA-7-R-7 (Students will employ reading strategies (e.g., skimming, scanning) to locate and apply information in varied print and non-print (e.g., computers, media, interviews) resources for inquiry projects and other authentic tasks.)
- ELA-7-W-1 (Students will respond to reading, listening, observing, and inquiry through applying writing-to-learn strategies in situations such as graphic organizers, note taking, journals, and logs and writing-to-demonstrate-learning strategies in situations such as graphic organizers, open-response questions, and summaries.)
- ELA-7-W-2 (Students will use information from technology and other resources to develop independent ideas and support those ideas in writings for authentic purposes and audiences.)
- ELA-7-W-3 (Students will write transactive pieces (writing produced for authentic purposes and audiences beyond completing an assignment to demonstrate learning), based on inquiry and/or personal experience that show independent thinking and incorporate ideas and information from reading, listening, observing, and inquiry.)
- ELA-7-W-5 (Students will write personal pieces to communicate ideas.)
- ELA-7-SLO-1 (Students will adjust listening and observing strategies for specific situations and purposes (e.g., to follow directions, to acquire information, for entertainment, to complete a task).)
- ELA-7-SLO-2 (Students will apply organizational skills and delivery techniques to produce oral messages and products with and without technology.)
- ELA-7-SLO-3 (Students will apply listening, speaking, and observing skills to conduct authentic inquiry tasks and to create products.)
- ELA-7-I-2 (Students will identify the most appropriate resources to accomplish different tasks.)
- ELA-7-I-3 (Students will follow a logical plan of inquiry to complete tasks.)
- ELA-7-I-4 (Students will use research tools to gather and organize ideas and information from library, personal, and community resources.)
- ELA-8-R-1 (Students will read and understand a variety of materials, making connections to students' lives, to real world issues, and/or to current events.)

- ELA-8-R-3 (Students will analyze transactive reading material (informational, practical/workplace, and persuasive) to create responses through addressing issues, confirming predictions, paraphrasing information to support ideas, and formulating/supporting opinions.)
- ELA-8-R-5 (Students will identify and analyze authors' positions, main ideas, and techniques of support in persuasive materials.)
- ELA-8-R-7 (Students will employ reading strategies to locate and apply information in varied print and non-print (e.g., computers, electronic media, interviews) resources for inquiry projects and other authentic tasks.)
- ELA-8-W-1 (Students will respond to materials read and concerns relevant to students' lives and the lives of others in society through applying writing-to-learn strategies and writing-to-demonstrate-learning strategies.)
- ELA-8-W-3 (Students will write transactive pieces (writing produced for authentic purposes and audiences beyond completing an assignment to demonstrate learning) that demonstrate independent thinking about literature, issues, and events relevant to students' lives.)
- ELA-8-W-5 (Students will write personal pieces to communicate ideas.)
- ELA-8-SLO-2 (Students will collaborate to gather and interpret information from observing, speaking, and listening and to prepare and deliver messages and products.)
- ELA-8-SLO-3 (Students will apply listening, speaking and observing skills to conduct authentic independent inquiry tasks in order to create products.)
- ELA-8-I-1 (Students will follow a logical, organized plan of inquiry to learn and to complete tasks.)

Core Content

Science:

- SC-M-SI-1 (Refine and refocus questions that can be answered through scientific investigation combined with scientific information.)
- SC-M-SI-2 (Use appropriate equipment, tools, techniques, technology, and mathematics to gather, analyze, and interpret scientific data.)
- SC-M-SI-3 (Use evidence (e.g., computer models), logic, and scientific knowledge to develop scientific explanations.)
- SC-M-SI-4 (Design and conduct scientific investigations.)
- SC-M-SI-5 (Communicate (e.g., write, graph) designs, procedures, observations, and results of scientific investigations.)
- SC-M-SI-6 (Review and analyze scientific investigations and explanations of other students.)
- SC-M-3.1.1 (Living systems at all levels of organization demonstrate the complementary nature of structure and function. Important levels of organization for structure and function include cells, tissues, organs, organ systems, organisms (e.g., bacteria, protists, fungi, plants, animals), and ecosystems).)
- SC-M-3.2.1 (All organisms must be able to obtain and use resources, grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment.)
- SC-M-3.5.1 (A population consists of all individuals of a species that occur together at a given place and time. All populations living together and the physical factors with which they interact compose an ecosystem.)
- SC-M-3.5.2 (Populations of organisms can be categorized by the function they serve in an ecosystem. Plants and some microorganisms are producers because they make their own food. All animals, including humans, are consumers, and obtain their food by eating other organisms. Decomposers, primarily bacteria and fungi, are consumers that use waste materials and dead organisms for food. Food webs identify the relationships among producers, consumers, and decomposers in an ecosystem.)
- SC-M-3.5.4 (The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem.)
- SC-H-SI-2 (Use equipment, tools, techniques, technology, and mathematics to improve scientific investigations and communications.)
- SC-H-SI-3 (Use evidence, logic, and scientific knowledge to develop and revise scientific explanations and models.)
- SC-H-SI-5 (Communicate and defend the designs, procedures, observations, and results of scientific investigations.)
- SC-H-SI-6 (Review and analyze scientific investigations and explanations of other investigators, including peers.)
- SC-H-AC-2 (Explore the impact of scientific knowledge and discoveries on personal and community health; recognize how science influences human population growth, use science to analyze the use of natural resources by an increasing human population; investigate how science can be used to solve environmental quality problems, use

science to investigate natural and human-induced hazards; and analyze how science and technology are necessary but not sufficient for solving local, national, and global issues.)

- SC-H-3.4.3 (Biological classifications are based on how organisms are related. Organisms are classified into a hierarchy of groups and subgroups based on similarities that reflect their relationships. Species is the most fundamental unit of classification. Different species are classified by the comparison and analysis of their internal and external structures and the similarity of their chemical processes.)
- SC-H-3.5.3 (Organisms both cooperate and compete in ecosystems. Often changes in one component of an ecosystem will have effects on the entire system that are difficult to predict. The interrelationships and interdependencies of these organisms may generate ecosystems that are stable for hundreds or thousands of years.)
- SC-H-3.5.4 (Living organisms have the capacity to produce populations of infinite size. However, behaviors, environments, and resources influence the size of populations. Models (e.g., mathematical, physical, conceptual) can be used to make predictions about changes in the size or rate of growth of a population.)
- SC-H-3.5.5 (Human beings live within the world's ecosystems. Human activities can deliberately or inadvertently alter the dynamics in ecosystems. These activities can threaten current and future global stability and, if not addressed, ecosystems can be irreversibly affected.)

Social Studies:

- SS-M-1.1.2 (Democratic governments function to preserve and protect the rights (e.g., voting), liberty, and property of their citizens by making, enacting, and enforcing appropriate rules and laws (e.g., constitutions, laws, statutes).)
- SS-M-1.1.3 (The Constitution of the U.S. is a flexible document that changes (amendments) and is interpreted (judicial review) over time to meet the needs of its citizens.)
- SS-M-2.1.1 (Culture is influenced by language, literature, arts, beliefs, and behaviors and may result in unique perspectives.)
- SS-M-2.3.1 (Various human needs are met through interaction in and among social institutions and groups (e.g., family, schools, teams, clubs, religious groups, governments).)
- SS-M-2.4.1 (Conflict and competition (e.g., political, economic, religious, ethnic) may occur as cultures emerge and develop.)
- SS-M-2.4.2 (Compromise and cooperation are possible choices for positive social interaction and resolution of conflict.)
- SS-M-3.1.1 (Productive resources (land, labor, capital) are limited and do not satisfy all the wants of individuals, societies, and governments (scarcity).)
- SS-M-3.1.2 (To make informed choices, consumers must analyze advertisements, amine the opportunity cost.)
- SS-M-3.2.2 (The hope of earning profit motivates businesses to take the risks involved in producing goods and services.)
- SS-M-4.2.1 (Places can be made distinctive by human activities (e.g., building houses, stores, roads, railroads, irrigation) that alter physical features.)
- SS-M-4.2.2 (Places and regions change over time as new technologies, resources, and knowledge become available.)
- SS-M-4.4.2 (The physical environment both promotes and limits human activities (e.g., exploration, migration, trade).)

- SS-M-4.4.3 (The natural resources of a place or region impact its political, social, and economic development.)
- SS-M-4.4.4 (Individual perspectives impact the use of natural resources (e.g., watering lawns, planting gardens, recycling paper).)

Writing:

- WR-M-1.4 (*Transactive writing* is informative/ persuasive writing that presents ideas and information for authentic audiences to accomplish realistic purposes like those students will encounter in their lives.)
- WR-H-1.4 (*Transactive writing* is informative/ persuasive writing that presents ideas and information for authentic audiences to accomplish realistic purposes like those students will encounter in their lives.)

Reading:

- RD-M-2.0.11 (Use text features (e.g., lists, charts, graphs, tables of contents, indexes, glossaries, captions, diagrams, headings) to understand a passage.)
- RD-M-2.0.12 (Apply knowledge of organizational patterns (e.g., cause and effect, comparison, contrast, sequence) to understand a passage.)
- RD-M-2.0.13 (Identify supporting details and explain their importance in a passage.)
- RD-M-2.0.14 (Summarize information from a passage.)
- RD-M-3.0.11 (Distinguish between informative and persuasive passages.)
- RD-M-3.0.13 (Apply knowledge of organizational patterns (e.g., cause and effect, comparison, contrast, sequence) to understand a passage.)
- RD-M-3.0.14 (Distinguish between fact and opinion.)
- RD-M-3.0.15 (Identify the argument and supporting evidence.)
- RD-M-3.0.16 (Identify commonly used persuasive techniques (e.g., expert opinion, statistics, testimonial, bandwagon).)
- RD-M-3.0.17 (Identify bias and/or misinformation.)
- RD-M-4.0.11 (Locate and apply information for a specific purpose (e.g., following directions, completing a task).)
- RD-M-4.0.12 (Identify the sequence of activities needed to carry out a procedure.)
- RD-M-4.0.13 (Explain how organizational patterns and/or text features (e.g., pictures, charts, graphs, format) relate to the content of a practical/workplace passage.)
- RD-M-4.0.14 (Interpret the meaning of specialized vocabulary.)